

Date: Monday, 12/10/2007 12:04:32 PM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : LEFT ARM WELDMENT
Job Number : 36232	
Estimate Number : 12080	
P.O. Number : <i>N/A</i>	Part Number : D33543
This Issue : 12/10/2007 S.O. No. : <i>N/A</i>	Drawing Number : D3354 <i>REV C</i>
Prsht Rev. : NC	Project Number : <i>N/A</i>
First Issue : <i>N/A</i> Type : MACHINED PARTS	Drawing Revision : <i>B/C</i>
Previous Run : 31588	Material : <i>N/A</i>
Written By : _____	Due Date : 12/24/2007
Checked & Approved By : _____	Qty: <i>8</i> Um: <i>2</i> Each
Comment : est rev A 06.01.23 new issue EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	M4130NR1250	4130N ROUND BAR
-----	-------------	-----------------



Comment: Qty.: 0.6300 f(s)/Unit Total : *5.0400 f(s)*
 AISI 4130 ROUND BAR 1.250" dia. batch: *M104182*

*6.25'**RD 07/12/17*

2.0	HARDINGE	HARDINGE CNC LATHE SMALL
-----	----------	--------------------------



Comment: 1-TURN AS PER FOLIO FA623 & DWG D3354
 FOLIO REV: *AA i3*
 DWG REV: *REV C*

2-DEBURR AS REQUIRED

RD 07/12/17

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*RD 07/12/17**(9)*

4.0	MILLING CONV.	CONVENTIONAL MILLING MACHINE
-----	---------------	------------------------------



Comment: CONVENTIONAL MILLING MACHINE
 1-Drill cotter pin hole as per dwg D3354

2-Deburr

DDP 07/12/18 (9)

5.0	QC8	SECOND CHECK
-----	-----	--------------



Comment: SECOND CHECK

*SA 01.12.18**(9)*

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: D Date: 07/12/17
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 12/10/2007 12:04:32 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: LEFT ARM WELDMENT

Job Number: 36232

Part Number: D33543

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: PAT D

W

JS 02/12/18

(X)

7.0

QC21

FINAL INSPECTION/W/O RELEASE



(9)

Comment: FINAL INSPECTION/W/O RELEASE

JS 02/12/18

Job Completion



min 2007/12/18
W

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	
Description: Wheel Shaft		Part Number:	D3354-3
Inspection Dwg: D3354 Rev: <i>A C</i>		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**

 ☐ **Prototype**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
7.04	+/-0.030	<i>7.04</i>	✓			
4.020	+0.010/-0.000	<i>4.025</i>	✓			
0.85	+/-0.030	<i>0.847</i>	✓			
0.06	+/-0.030	<i>0.06</i>	✓			
0.13	+/-0.030	<i>0.125</i>	✓			
Ø1.250	+0.001/-0.004	<i>1.249</i>	✓			
Ø1.103	+0.001/-0.002	<i>1.103</i>	✓			
0.750 Thread	+/-0.010	<i>0.771 over wires</i>	✓			
0.03 x 45°	+/-0.030 x 0.5°	<i>0.03 x 45°</i>	✓			
Ø0.152	+0.005/-0.001	<i>0.153</i>	✓			
R0.02	+/-0.030	<i>R0.015</i>	✓			
R0.050	+/-0.010	<i>R.05</i>	✓			
0.660	+/-0.010	<i>0.660</i>	✓			

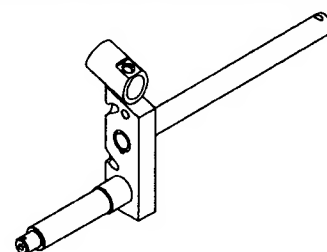
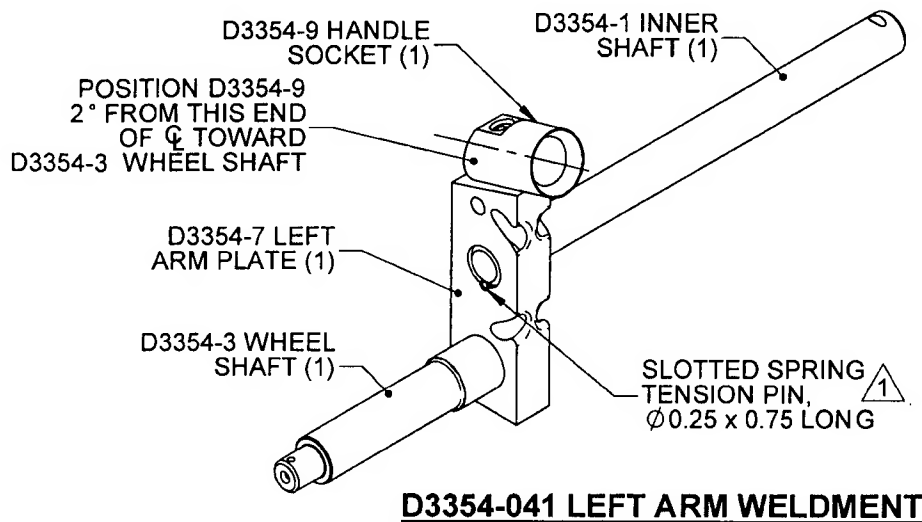
Measured by: <i>R9</i>	Audited by: <i>OWL</i>	Prototype Approval:	N/A
Date: <i>07/12/17</i>	Date: <i>07/12/18</i>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue	KJ/JLM	
B	07.04.20	Ø0.152 dimension removed	KJ/JLM <i>AF</i>	<i>QJA</i>

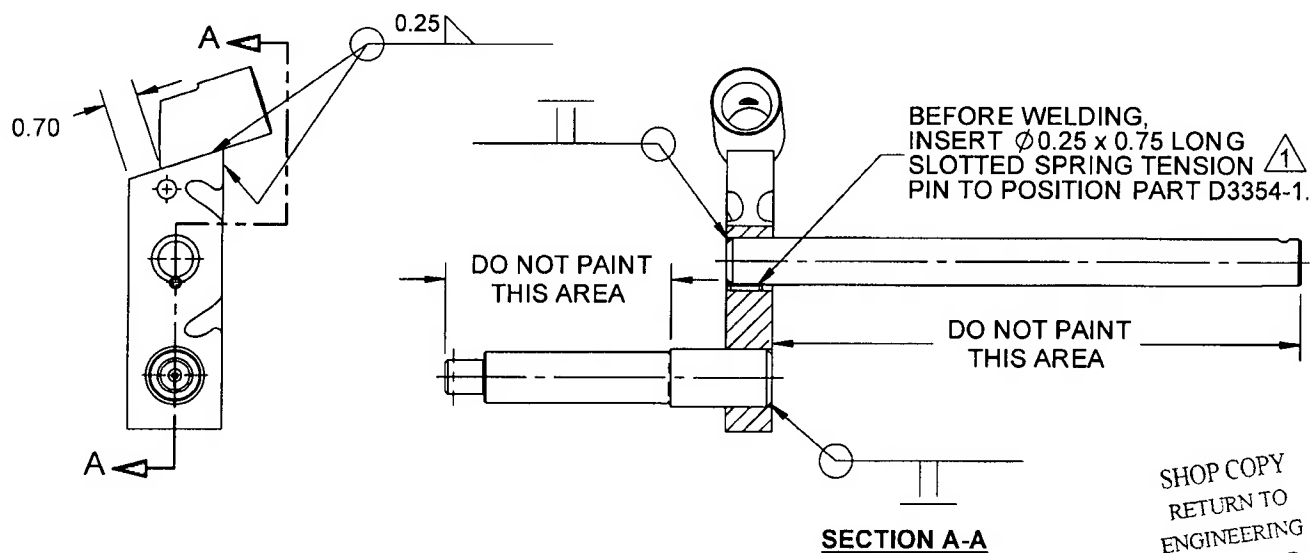


DESIGN <i>RF</i>	DRAWN BY <i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>LB</i>	APPROVED <i>WJ</i>	DRAWING NO. LEFT ARM WELDMENT	REV. C SHEET 1 OF 7
DATE 07.12.06		TITLE D3354	SCALE 1:4
REV	DATE	DESCRIPTION	
A	04.12.13	NEW ISSUE	
B	07.02.02	REVISED DIMENSIONS	
C	07.12.06	CHANGE TOLERANCE ON D3354-7 LEFT ARM PLATE HOLE FOR D3354-3 WHEEL SHAFT	

RELEASED
07/12/07 *WJ*



**D3354-042 MIRROR
ARM WELDMENT**



NOTES:

- 1) POSSIBLE SUPPLIER: SPAENAU, P/N TP-134
- 2) WELD PER DART QSI 004
- 3) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.010 TO 0.020

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. _____

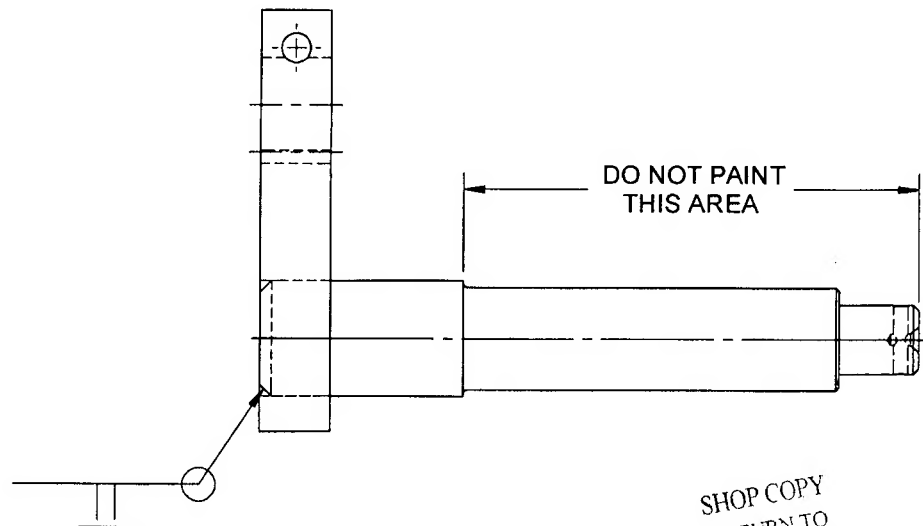
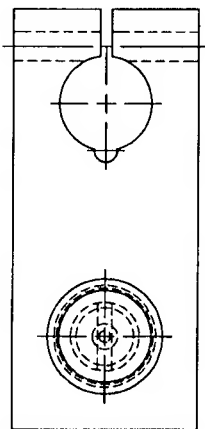
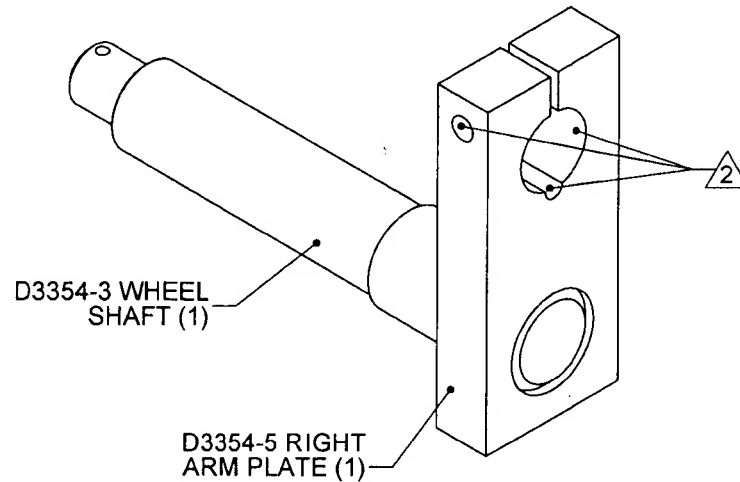
COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3354	REV. C SHEET 2 OF 7
DATE 07.12.06		TITLE LEFT ARM WELDMENT	SCALE 1:2

RELEASED
07/12/07 *[Signature]*



D3354-043 RIGHT ARM WELDMENT

NOTES:

- 1) WELD PER DART QSI 004
- 2) COVER INSIDE HOLES PRIOR PAINTING
- 3) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.010 TO 0.020

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. _____

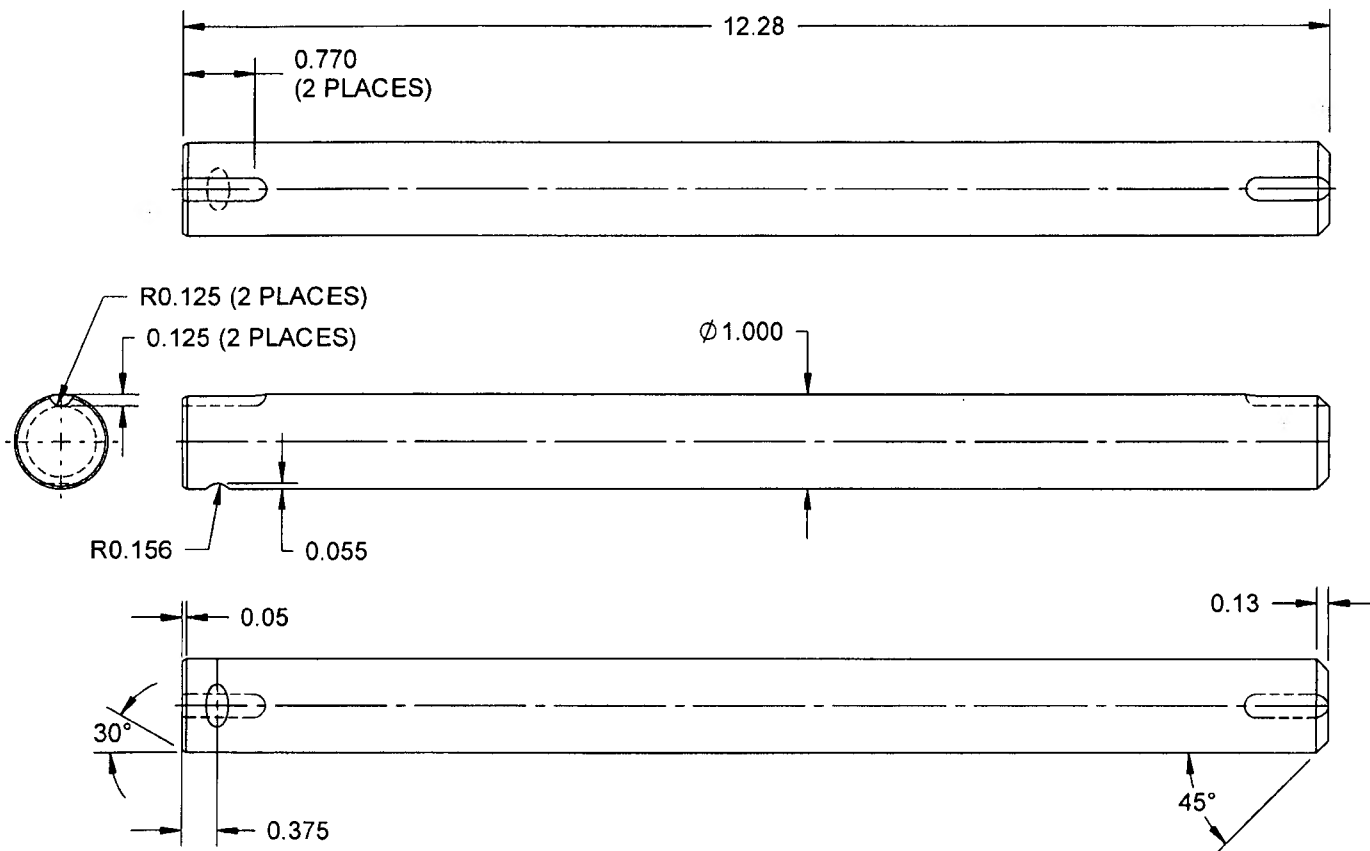
COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>RF</i>	DRAWN BY <i>JC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>g</i>	APPROVED <i>MP</i>	DRAWING NO. D3354	REV. C SHEET 3 OF 7
DATE 07.12.06		TITLE LEFT ARM WELDMENT	SCALE 1:2

RELEASED
07/12/07 *WP*



D3354-1 INNER SHAFT

NOTES:

- 1) MATERIAL: AISI-4140 OR ASTM A304-02/ A-434-BC / A193-03 - GRADE-B7/ A29-03/ A322-91 OR UNS#-G41400 ROUND BAR, $\phi 1.250$ (REF. DART SPEC. M4140H-R)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

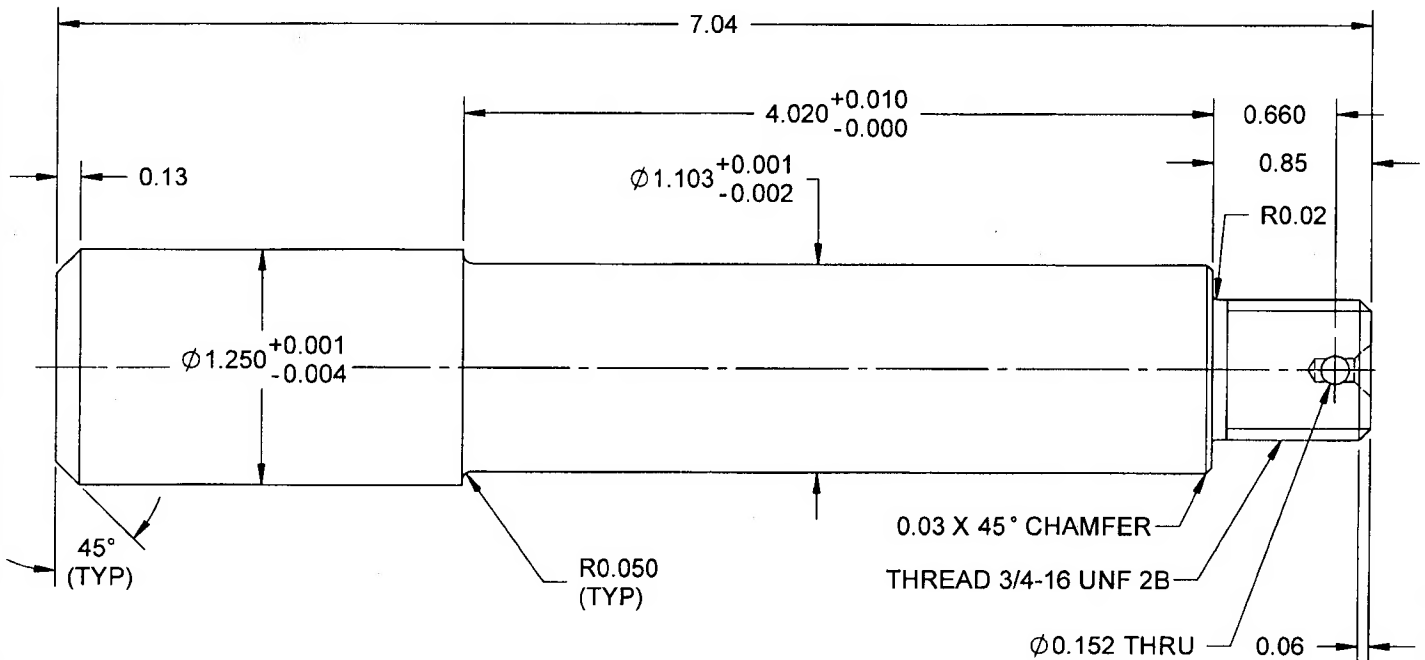
NO. _____

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3354	REV. C SHEET 4 OF 7
DATE 07.12.06		TITLE LEFT ARM WELDMENT	SCALE 1:1

RELEASED
07.12.07 *[Signature]***D3354-3 WHEEL SHAFT**

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. _____

NOTES:

- 1) MATERIAL: AISI-4130/ AISI-4140 OR ASTM A304-02/ A-434-BC/ A193-03 - GRADE-B7/ A29-03/ A322-91 OR UNS#-G41400 ROUND BAR, ϕ 1.250 (REF. DART SPEC. M4140H-R)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

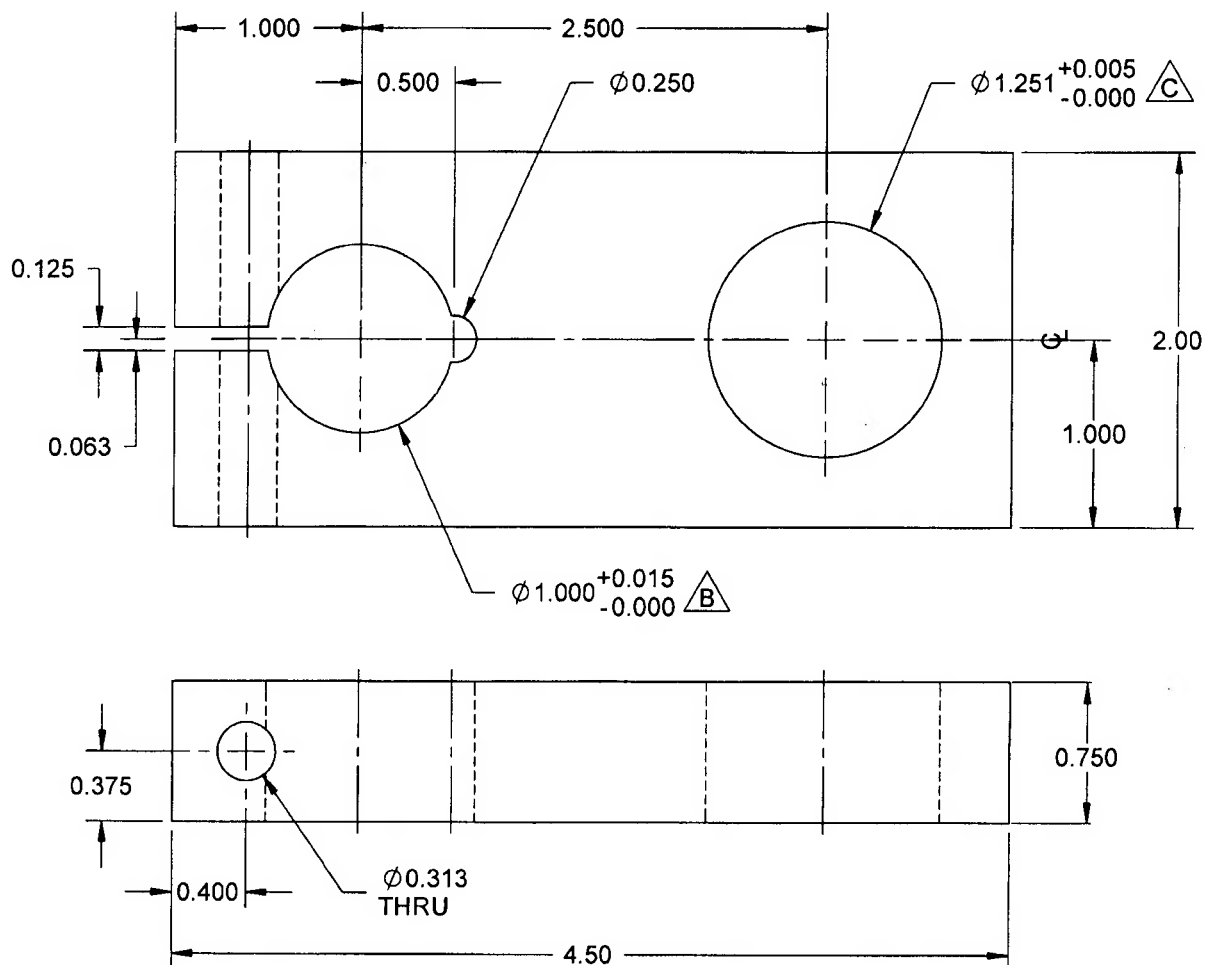
COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN #	DRAWN BY [Signature]	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3354	REV. C SHEET 5 OF 7
DATE 07.12.06		TITLE LEFT ARM WELDMENT	SCALE 1:1

RELEASED
07/12/07 [Signature]



D3354-5 RIGHT ARM PLATE

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR CSA G40.21, 38W/44W/50W/60W/70W, 0.75 THICK MILD STEEL BAR (REF. DART SPEC. M1010-B)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. _____

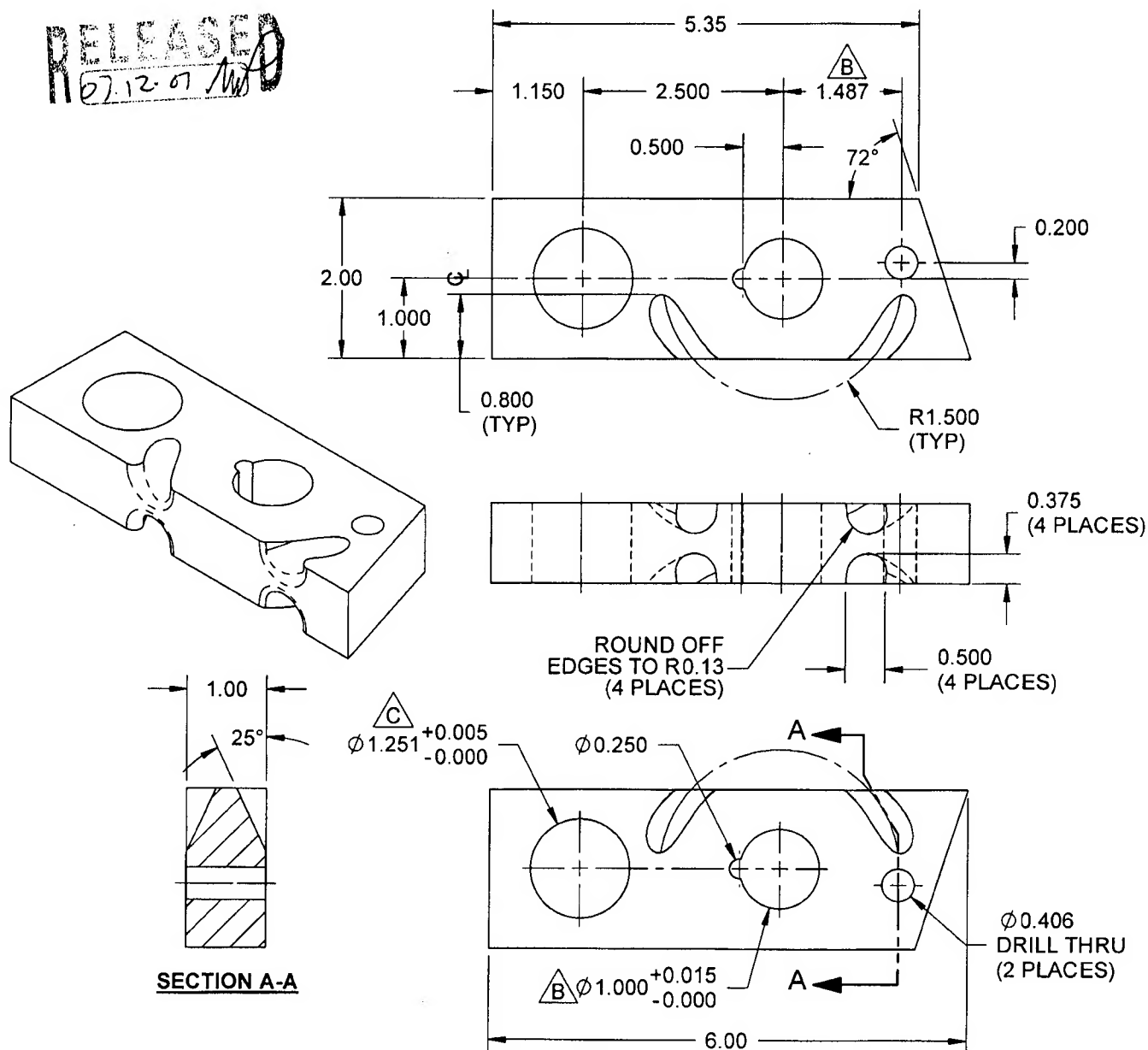
COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>RF</i>	DRAWN BY <i>JC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>L</i>	APPROVED <i>MP</i>	DRAWING NO. D3354	REV. C SHEET 6 OF 7
DATE 07.12.06		TITLE LEFT ARM WELDMENT	SCALE 1:2

RELEASED
07.12.07 *MP*



D3354-7 LEFT ARM PLATE

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR CSA G40.21, 38W/44W/50W/60W/70W, 1.00 THICK MILD STEEL BAR (REF. DART SPEC. M1010-B)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

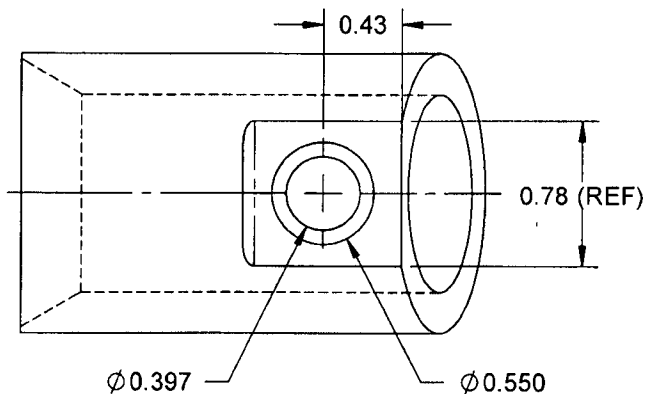
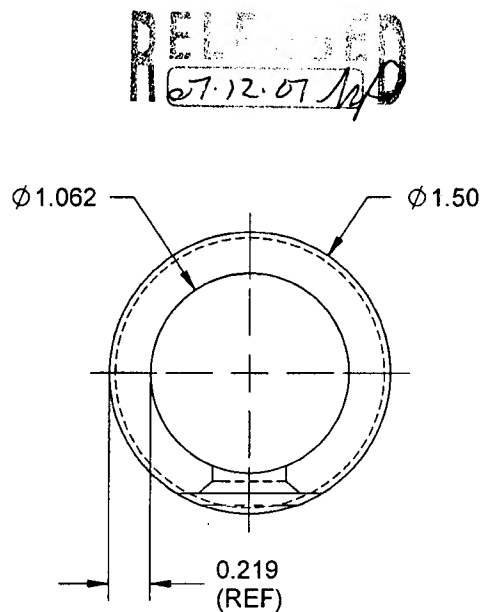
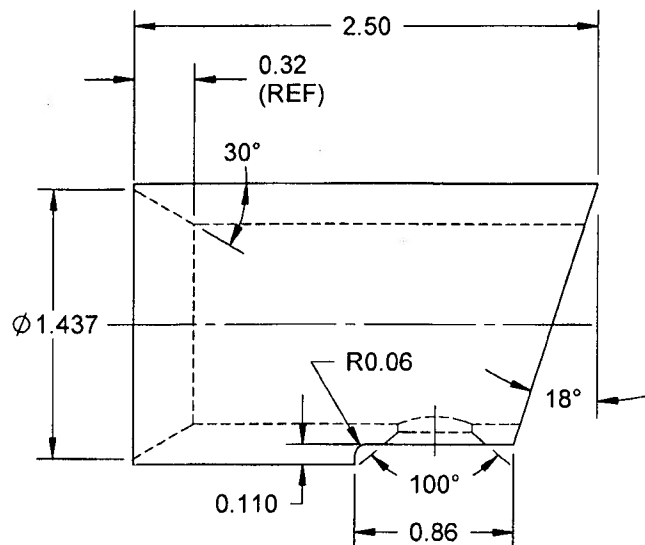
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>RF</i>	DRAWN BY <i>JC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>LS</i>	APPROVED <i>MP</i>	DRAWING NO. D3354	REV. C SHEET 7 OF 7
DATE 07.12.06		TITLE LEFT ARM WELDMENT	SCALE 1:1



D3354-9 HANDLE SOCKET

NOTES:

- 1) MATERIAL: AISI 1010-1025 SEAM LESS ROUND TUBING PER MIL-T-5066 OR ASTM A513-00 MT1020 SRA OR AMS 5075 OR AMS 5077, (REF. DART SPEC. M1020TR1.250W.219)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. _____

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.